

## HEALTH CARE USE &amp; POLICY STUDIES – Formulary Development

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## LOOKING FOR A COST-EFFECTIVENESS THRESHOLD IN KOREA

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**OBJECTIVES:** To identify factors affecting cost-effectiveness threshold calculation in Korea. **METHODS:** As a pilot study of the Korean cost-effectiveness threshold study, a survey questionnaire using EQ-5D to measure QALY improvements and WTPs in hypothetical scenarios were developed. 219 Koreans from general population were interviewed face-to-face with this questionnaire in 2009. Each person's WTPs were asked for five scenarios chosen from each level of Korean EQ-5D tariff (KCDC): 0–0.2, 0.2–0.4, 0.4–0.6, 0.6–0.8, 0.8–1.0. The same WTP questions were repeated for the QALY improvement of a family member instead of self. The questionnaire also included questions on demographics, disease status, and a visual analog scale (VAS) measure of each scenario presented. Consistency of each respondent was checked by matching ranks of five scenarios between WTPs and QALY improvements either by VAS or KCDC tariff. The distribution of WTP values can provide random starting values for a large-scale double-bounded dichotomous choices survey in 2010. **RESULTS:** The WTP for an additional QALY (calculated by VAS and three existing Korean EQ-5D tariffs) was around 10–25 million KRW (9164–22927 USD, 1 USD = 1150 KRW) on average for those (N = 150) who passed consistency check and not under medical assistance program (zero or low copayment). The averages of WTP for a family member were 2.6–5.4 million KRW (2328–4913 USD) higher than WTP for self. Respondents from Seoul (N = 112) showed significantly higher WTP averages (5–12 million KRW higher, 4103–10787 USD higher;  $p < 0.05$ ) than nonresidents of Seoul (N = 38). The relationship between WTP and QALY improvements measured by VAS was monotonic (people more appreciate significant improvements) whereas the relationship between WTP and QALY improvements measured by Korean tariffs were highest at 0–0.2 level. **CONCLUSIONS:** The choice of method to calculate QALY improvement seems crucial in cost-effectiveness threshold study in Korea. Other important factors include WTP for whom and living in Seoul.

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## ECONOMIC MODELS: MANAGED CARE DECISION MAKER'S PERCEPTIONS AND USE

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**OBJECTIVES:** To 1) identify the types and characteristics of economic models plans are currently using; 2) identify concerns with these models; and 3) assess thoughts on the future importance of modeling. In 2000 the AMCP introduced its template for dossiers, which includes an economic model. Little is known about how payers use economic models, their perceived limitations, and how recent health care initiatives, such as comparative effectiveness research (CER), might impact use of economic models by health-plan decision-makers. **METHODS:** A web-based survey of 60 managed care payers was conducted in September 2009 to assess perceptions and roles of economic models in decision-making. **RESULTS:** A total of 60 responses (35 pharmacy directors, 17 medical directors, 4 consultants, and 4 others) representing more than 85 million lives, was received. 50% of respondents reported that they only used in-house models, 22% used both in-house and industry models, while 23% did not use economic models. Budget impact models were preferred by 23% of respondents, cost-effectiveness models by 15%; 62% thought both were equally important. Microsoft Excel (65%) was the preferred software platform; AWP (25%) and WAC (27%) were the preferred drug pricing references. The majority believed that models should include the costs of treating AEs (50%) and off-label use (62%). Over half (55%) felt QALYs are not a trustworthy measure and a majority (75%) had little trust in industry sponsored models, largely due to a lack of credible inputs and data sources (37%). Most decision-makers (57%) believe that models will become more important over the next 2 to 3 years, and 72% believe that CER will increase the relevance of models. **CONCLUSIONS:** Results indicate that the majority of payers use economic models, believe that economic models will become more important in the near future, and think that CER will make models more relevant.

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## THE USE OF COMPARATIVE EFFECTIVENESS INFORMATION BY FORMULARY DECISION-MAKERS

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**OBJECTIVES:** Health care stakeholders invest significant resources into developing and disseminating comparative effectiveness information. One of the primary goals is to provide health care decision-makers with unbiased information on which to base their decisions. The study purpose was to determine the types of comparative effectiveness information that would be most useful to formulary decision-makers. **METHODS:** In-depth interviews were conducted with formulary decision-makers in ten health plans. Between two to four interviews were conducted with each plan and included at least one medical director and one pharmacy director. Participants were provided with two published articles describing cost effectiveness models for secondary stroke prevention. Interviews then explored the following topics: what types of comparative effectiveness information are typically used for decision-making, which of the two

models were most salient and the characteristics that made that model more useful, what types of comparative effectiveness information would be most useful in the future. **RESULTS:** Most, but not all, participants used some type of comparative effectiveness information in their decision making process. Including cost information in comparative effectiveness information was essential to them. The vast majority of the participants preferred a more simple methodological approach rather than models that use advanced statistical methods. Participants felt that the appropriate timeframe for models was approximately 1–3 years. The source of the information was important as participants wanted unbiased information and did not trust information provided by industry. Finally, most participants seemed to favor a single source for reliable cost effectiveness information. **CONCLUSIONS:** Comparative effectiveness researchers must be mindful of the needs of one of the primary audiences, health care decision-makers, to ensure that the information is salient to them. Current approaches of the development of complex and advanced methods seem to be counter to what health care decision-makers want.

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## A FURTHER STUDY ON PREFERRED DRUG BENEFIT PLANS FOR CIVIL SERVANT MEDICAL BENEFIT SCHEME IN THAILAND

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**OBJECTIVES:** To further examine preferred drug benefit plan for civil servant medical benefit scheme (CSMBS) in Thailand. **METHODS:** Two types of questionnaires modified from previous studies were sent to 1,000 conveniently selected civil servants residing in two provinces. The questionnaire included ten hypothetical drug benefit plans containing four attributes e.g. cost sharing, formulary, accessibility, and quantity. Those two questionnaires contained different types of the cost sharing attribute, copayment and coinsurance. The respondents were asked to rate their satisfaction levels of each plan on Likert scale. Conjoint analysis was used to calculate utility weights and relative importance. **RESULTS:** Results from 293 questionnaires having copayment, as the cost sharing attribute, showed the beneficiaries weighed highest importance, 30.18%, on the formulary attribute. The beneficiaries preferred having access to drugs both listed and not listed in national essential drug list. The second important attribute was the cost sharing and its relative importance was 24.97%. The beneficiaries preferred lower level of copayment at 20 baht. The beneficiaries similarly weighed importance level on the attributes of accessibility and quantity at 22.47% and 22.38%, respectively. Results from 330 questionnaires having coinsurance, as the cost sharing attribute, showed the beneficiaries weighed highest importance, 33.23%, on the cost sharing. The beneficiaries preferred lower level of coinsurance at 10%. The second important attribute was the formulary restriction and its relative importance was 26.05%. The beneficiaries preferred having access to drugs both listed and not listed in national essential drug list. The beneficiaries similarly weighed importance level on the attributes of accessibility and quantity at 21.02% and 19.96%, respectively. **CONCLUSIONS:** The CSMBS beneficiaries weighed on the cost sharing and formulary attributes to be more important than the accessibility and quantity attributes when they considered drug benefit plans.

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## SENSITIVITY OF MEDICATION USE AND OUTCOMES TO FORMULARY CONTROLS IN THE ELDERLY: A REVIEW OF THE LITERATURE

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**OBJECTIVES:** This study sought to summarize effects of formulary controls on medication use and outcomes in the US elderly population in an effort to inform future Medicare Part D coverage decisions. **METHODS:** A systematic review was conducted identifying studies using search terms in PubMed, and Google Scholar. Journals pertaining to health care issues in the elderly were reviewed. Search terms such as *Medicare*, *copayment*, *compliance*, *outcomes*, and *utilization* covered the following areas: 1) impact of formulary control on medication use (e.g. adherence, prescription fills) and 2) impact of medication use on health outcomes. Articles published prior to 1995, that were not original empirical research, published in languages other than English, and studied populations other than US Medicare beneficiaries were excluded. Studies were categorized based on the statistical significance of relationships defined *a priori*. **RESULTS:** A total of 54 research articles were reviewed. The majority evaluated the impact of drug coverage or cost share (copayment or coinsurance) on medication use. Impact of drug coverage was assessed by comparing patients with some drug coverage to those with no drug coverage or comparing patients with varying levels of drug coverage. Overall, 24 studies examined the impact of level of drug coverage on medication use; 96% showed that richer drug coverage or having some drug coverage significantly improved medication use. Further, 19 studies examined the effect of cost share on medication use; 84% showed that decreased cost share significantly improved medication use. Finally, 89% of studies (n = 9) showed that increased medication use was associated with significantly improved economic and clinical outcomes. **CONCLUSIONS:** The preponderance of evidence existing in the literature to date suggests that restricting drug coverage or increasing out-of-pocket expenses for the elderly may lead to decreased medication utilization, potentially leading to poorer patient outcomes and greater health care costs.